

IN THE CLAIMS:

Please amend claims 1~~4~~, 6, 7, 9, 11-16, 19-21, 25, 27, 30, and 33-34 as follows:

A1

1. (Amended) A method of determining a title from a document image, comprising:

- dividing the document image into minimal circumscribing rectangles which contain a character image;
- recognizing characters in said minimal circumscribing rectangles; and
- determining a title of the document image based upon a likelihood of each of said minimal circumscribing rectangles containing a title, said likelihood being determined by a single value based upon multiple criteria obtained during said character recognition and said title determination, said multiple criteria comprising natural language likelihood and any combination of character row area coordinates, character type, number of characters, character code assurance, character minimum circumscribing rectangle coordinates, and character minimum circumscribing rectangle size.

2. (Amended) The method of determining a title from a document image according to claim 1 wherein said single value includes a sum of points based on said multiple criteria .

3. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include characteristics on font.

4. (Amended) The method of determining a title from a document image according to claim 2 wherein said font characteristics include a frequency of a particular font type.

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6. (Amended) The method of determining a title from a document image according to claim 5 wherein said multiple criteria include a result of said matching with said predetermined words.

7. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include a number of said characters.

A3 9. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include an assurance level of said character recognition.

11. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include layout characteristics.

12. (Amended) The method of determining a title from a document image according to claim 11 wherein said layout characteristics include centering, underlining, size, or any combination thereof.

A4 13. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include an indication of whether or not said characters end in a noun form.

14. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include an indication of whether or not said characters end in a set of predetermined suffixes.

15. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include a ratio between a length and a height of each of said circumscribing rectangles.

16. (Amended) The method of determining a title from a document image according to claim 2 wherein said multiple criteria include a ratio between a summed width of said characters and a corresponding one of said circumscribing rectangles.

A5 19. (Amended) A system for determining a title from a document image, comprising:
a character row area determination unit for dividing the document image into minimal circumscribing rectangles which contain a character image;

a character recognition unit connected to said character row area determination unit for recognizing characters in said minimal circumscribing rectangles; and

a title evaluation point determination unit connected to said character recognition unit for determining a title of the document image based upon a likelihood of each of said minimal circumscribing rectangles containing a title, said likelihood being determined by a single value based upon multiple criteria obtained during said character recognition and said title evaluation, said multiple criteria comprising natural language likelihood and any combination of character row area coordinates, character type, number of characters, character code assurance, character minimum circumscribing rectangle coordinates, and character minimum circumscribing rectangle size.

95 20. (Amended) The system for determining a title from a document image according to claim 19 wherein said title evaluation point determination unit determines said single value in terms of a sum of points based on said multiple criteria.

21. (Amended) The system for determining a title from a document image according to claim 20 wherein said title evaluation point determination unit further comprises a font determination unit for generating at least one criterion of said multiple criteria on font characteristics.

96 25. (Amended) The system for determining a title from a document image according to claim 20 wherein said character recognition unit generates at least one criterion of said multiple criteria based on a number of said characters.

97 27. (Amended) The system for determining a title from a document image according to claim 20 wherein said character recognition unit generates at least one criterion of said multiple criteria based on an assurance level of said character recognition.

98 30. (Amended) The system for determining a title from a document image according to claim 29 wherein said extraction unit extracts said layout characteristics on centering, underlining, size, or any combination thereof.